Vol. 1 No. 1

BAILEYA

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MARCH 1953

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BAILEYA. - A quarterly journal devoted to the botany of cultivated plants and especially to their identification, nomenclature, classification, and history in cultivation.

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Notes and short scientific papers relating to the systematics of cultivated plants, and to their history in cultivation or to the literature pertaining to such topics, will be considered for publication to the extent that the limited space of the publication permits. Line illustrations to accompany such papers are invited. Authors of more than two pages of print will receive in recompense, 15 copies of the issue in which their contribution appears. No proof will be submitted to the author and copy is considered in final form as received. Extracted reprints without change in pagination will be provided at cost [approximately $1.75 per page per 100 copies].

BAILEYA
Vol. 1 March 1953 No. 1

By Way of Introduction

G. H. M. Lawrence

This, the first issue of BAILEYA, marks the appearance of a new periodical. One new in its approach to the application of taxonomy to the problems of the horticulturist, new in bringing to the plantsman a different outlook - and we hope appreciation - to emphasize the advantages of knowing more about the kinds of cultivated plants, and a periodical different from others in its level and range of content.

BAILEYA, as must be obvious to all familiar with its parent institution, is named in commemoration of Liberty Hyde Bailey, born in 1858, graduate of Michigan State College [class of 1882], assistant of Asa Gray, botanist and Professor of Horticulture at Cornell from 1888-1913, Dean of Cornell's New York State College of Agriculture and in essence the foundation-builder of that College, pioneer in the establishment of American horticulture as a science, and leader in providing it with a backlog of literature, and founder and [until very recently] Director of the Bailey Hortorium. The choice of the title is natural. The time of publication of this first issue coincides with his 95th birthday [15 March]. The life and contributions of this mentor have centered about horticultural education, based on sound botanical principles, and have been directed in a large measure toward man's better understanding of the behavior and kinds of cultivated plants about him. These goals, achieved by Bailey, are now sought by this newcomer to the literature of horticulture.

Most of the newness of BAILEYA is its emergence into the field of horticultural literature. It is not new in concept. The records show that many years ago Bailey had in mind a periodical of this character. He has pointed out repeatedly during recent years that a need for it has existed. The Bailey Hortorium, dealing as it does with studies on the identity, nomenclature, and classification of cultivated plants, is the logical organization to sponsor a periodical of this character and scope. Many of the editorial ideas to be incorporated in BAILEYA are not new. Those readers who have scanned the pages of the yearbooks titled, "Annals of Horticulture" [written and compiled by L. H. Bailey from 1889-1895] will find in BAILEYA a continuation of some of the features of the earlier work.

BAILEYA proposes to translate the results of taxonomic research to a form more useful to the plantsman - to the amateur and the professional alike. In addition, it proposes to provide quarterly accountings of plants recently introduced to North American horticulture, often with notes as to their sources, characteristics and uses, and by whom each was introduced. Among other inclusions will be historical accounts of plant groups, and of plant explorers; there will be bibliographical notes and reviews of botanical and horticultural literature, and occasional newsworthy articles pertinent to the taxonomy of cultivated plants. BAILEYA is projected to fill a gap in the current botanico-horticultural literature and to be a periodical that is useful and generally available to the nurseryman, seedsman, serious amateur, and to those persons genuinely interested in knowing more about the whys and wherefores of identifying, naming, and classifying cultivated plants. Its articles will result to a large extent from researches and activities of members of the Bailey Hortorium staff. Contributions within the editorial plan and scope of the periodical are invited from other specialists.

Thirty-three years ago L. H. Bailey founded a periodical. He named it GENTES HERBARUM, a Latin title, in allusion to its containing occasional papers about the kinds of plants. GENTES HERBARUM is primarily a technical journal, formal in expression, largely botanical in character, and limited in availability. It is now in its eighth volume and current high production costs have limited its publication to about one fascicle a year. Publication of GENTES HERBARUM will continue. It is a journal that will not be displaced by BAILEYA. Each of these two periodicals has its own sphere of influence and importance. Names of new taxa [i.e., those of genera, species, and botanical varieties] will continue to be published in GENTES HERBARUM, where also will be published taxonomic monographs and revisions, and lesser notes of similar character. On the contrary, the pages of BAILEYA will not be used for publication of new Latin names or new combinations of Latin names.

The format of BAILEYA has been selected because it places an appreciable quantity of information before the reader, in an easily read form, at low cost. It is accomplished by photographing the typed copy and reproducing it by the Multilith process, using a good quality non-rag paper, and permits free use of line drawings at no extra reproduction cost.

Some Mexican Amaryllids

H. E. Moore, Jr.

For many years the fragrant, waxy-white flowers of Milla biflora and the nodding scarlet and white flowers of Bessera elegans from Mexico have had a place in our garden.

In 1949, newly discovered relatives of these two species, also from Mexico, were brought into this country in very limited quantity and have only recently been described as Milla magnifica and Petronymphe decora in Gentes Herbarum, the technical publication of the Bailey Hortorium. Stocks are now being multiplied. It is hoped that within the next few years the supply of corms of species will become sufficient for their release through the nursery trade. So that future growers may recognize them when they become available, these plants are briefly described and illustrated here with their better known relatives. All respond well to the routine care for bulbous or cormous plants, being stored through the winter in a dry place and set out in pots in the garden in late spring.

The three genera, Bessera, Milla and Petronymphe form a small group of amaryllids once placed in the Liliaceae because of their superior ovaries. With Allium, Brodiaea and their relatives they were removed to the Amaryllidaceae by the British botanist Hutchinson in 1934 because of their umbellate inflorescence. Their relationship to Allium, Brodiaea and other genera of this alliance may be seen from the following brief key in which only the genera to be discussed further are separated in detail.

1. **Spathe-bracts 2, generally united toward the base and ascending or erect, enclosing the buds: rootstock a membranous- or fibrous coated tunicated bulb: flowers not articulate with the pedicels: plants sometimes with the odor of onions. Allium, Ipheion, Leucocoryne, Nothoscordum, Steinmannia, Tristagma.**

1. **Spathe-bracts 3 or more, distinct, spreading, not enclosing the buds: rootstock a membranous- or fibrous-coated corm: flowers often articulate with the pedicel: plants never with the odor of onions.**

2. Corm with coarsely or sometimes obscurely fibrous-reticulate tunics: ovary sessile, or if borne on a stalk then the stalk not united with the perianth-tube. The genera: Androstephium, Bloomeria, Brodiæa, Dichelostemma, Muilla, Triteleia, Triteleiopsis [not treated in this article].

2. Corm with membranous tunics of minute parallel fibers: ovary borne on a stalk, the stalk and base of the ovary united to the perianth-tube by lateral flanges on three sides opposite the outer perianth-segments.

3. Flowers red, purplish-red or violet, the perianth campanulate or tubular: stamen-filaments several times as long as the anthers, united at the base or to the middle in a membranous tube. Bessera

3. Flowers white with green stripes or yellow-green, the perianth salverform or tubular: stamen-filaments shorter than to twice as long as the anthers, distinct and not united at the base.

4. Perianth salverform, white with green stripes, the flowers fragrant: leaves generally hollow, round in cross-section. Milla

4. Perianth tubular, yellow-green, the flowers not fragrant: leaves solid, triangular in cross-section. Petronymphe

Bessera, Schult. f. [Pharium, Herb.]

Two species of perennial herbs with 1-2 or more slender terete hollow leaves and erect scapes from membranous-coated corms: inflorescence umbellate, subtended by several distinct bracts, the flowers several to many, red to violet, jointed at the base with the slender pedicels: perianth campanulate or tubular, the segments united below, free above, stamens 6, the filaments united at the base or up to the middle and exserted, the anthers ovoid or oblong, often colored, ovary superior, borne on a short stalk that is united to the perianth-tube on three angles: fruit a loculicidal capsule with numerous flattish black seeds.

Bessera elegans, Schult. f. [Pharium elegans, (Schult. f.) Steud. Fig. 1

Leaves 2-3, to 2 feet long, hollow: scape to 3 feet high with 5-30 nodding flowers about 1 inch long: perianth campanulate, scarlet with creamy-white stripes, the segments usually longer than the tube, stamen-filaments united about half their length in a membranous, often violet-flushed tube. Mountains of western Mexico.

Bessera elegans is one of two species in the genus and the on-

ly one in cultivation at present. It is native in the mountains of western Mexico where it is often found in oak, or pine and oak woods of nearly temperate character. There the many nodding flowers are brilliant spots of color in more open places. Characteristically they are scarlet with white stripes on the inner surface of the segments but in some of the wild forms they vary from pink to red-purple or violet. The greenish of bluish anthers are exserted on long slender white filaments united in a white or violet-flushed tube similar in some respects to the corona of Hymenocallis. As the flowers fade, the pedicels become erect and the fruit ripens within the dry remains of the perianth. It then ruptures from the top downward on three sides spilling the flattish seeds.

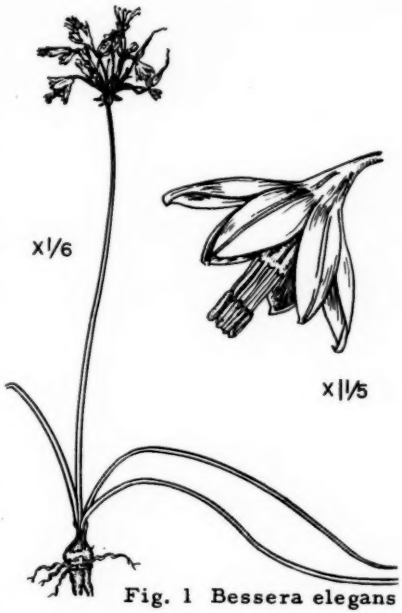

Fig. 1 Bessera elegans

Robust plants of Bessera elegans may reach three feet in height but the average is somewhat less. The dark green somewhat cylindrical leaves are borne erect at first but later become lax. Only the brilliant scarlet form has been seen in cultivation, a form that has persisted since early in the last century when it was first introduced into Europe.

Milla, Cav.

Six species of herbs with 2-7 grass-like or onion-like usually hollow leaves and erect scapes from membranous-coated corms: inflorescence umbellate, subtended by several distinct bracts, the flowers few to many or sometimes solitary, white with green stripes, blue or pink, sessile or articulate at the base with stoutish pedicels: perianth salverform, the segments united below in a long slender tube, spreading and free above, stamens 6, the filaments distinct, shorter than to twice as long as the linear-oblong anthers, ovary superior, borne on a long stalk that is united to the perianth-tube on three angles: fruit a loculicidal capsule with numerous flattish black seeds. Native in the mountains from southern

Arizona and New Mexico to northern Guatemala with two species in cultivation distinguished as follows:

1. Flowers 1-7, sessile: leaves slender and grass-like. M. biflora
1. Flowers 15-30, pedicellate: leaves stout and onion-like. M. magnifica

Milla biflora, Cav. Fig. 2.

Leaves 2-7, grass-like: scape slender, 1-7-flowered, the flowers sessile, to 8 inches long, 2 1/2 inches across, fragrant, waxy-white with green stripes and pale nearly sessile anthers. Southern Arizona and New Mexico to Guatemala.

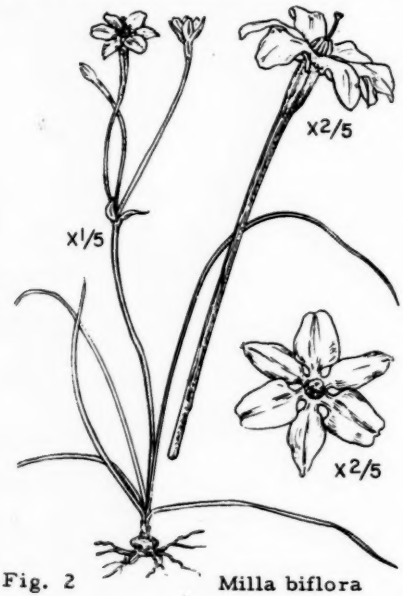

Fig. 2 Milla biflora

During the summer and early fall months, flowers of Milla biflora, known as "Estrella" and a variety of other local names is offered in bunches to the passing visitor or Mexican by the people living on the outskirts of Mexico City near the ancient lava flow known as the Pedregal. This lava flow is representative of one type of habitat in which the species occurs throughout its wide range. It generally grows in open, high regions with soils of volcanic origin and is an often prominent but seldom abundant plant.

For many years it has flourished in cultivation and the short scapes with few flowers makes it a plant well adapted to the small garden or greenhouse. It was first introduced to England and the European continent early in the last century and has remained in favor since. Many growers offer corms in this country and the species is probably the best known of this small group.

Milla magnifica, H. E. Moóre Fig. 3

Leaves 3, onion-like, to 3 feet long, at first erect then becoming prostrate at time of flowering: scape erect, to 18 inches high, 15-30-flowered, the flowers pedicellate, to 6 inches long, fragrant, waxy-white with green stripes outside and blue anthers on prominent filaments. State of Guerrero, western Mexico.

In the midst of dry mountainous thorn-scrub country lying between the towns of Iguala and Teloloapan in the state of Guerrero, western Mexico, the Rio de los Sabinos courses through a narrow valley. In early November of 1949 the writer stopped to collect a handsome composite growing on high ledges above the river and by accident noticed the remains of a plant that seemed to be an amaryllid. A few corms were collected and carried back to Ithaca for trial. The corms resembled those of Milla biflora and in late summer of 1951, when scapes rose from two of the corms, it became obvious that although the plants were Millas they were neither M. biflora nor a rare species of northern Mexico, M. Bryanii, then the only species of true Milla known.

In October, 1951, when the first umbel with about 30 buds began to open its flowers the plant was so striking that the name Milla magnifica was adopted for it. The species has only recently been formally described under this name from the cultivated plants and apparently has not been collected while flowering in its native habitat.

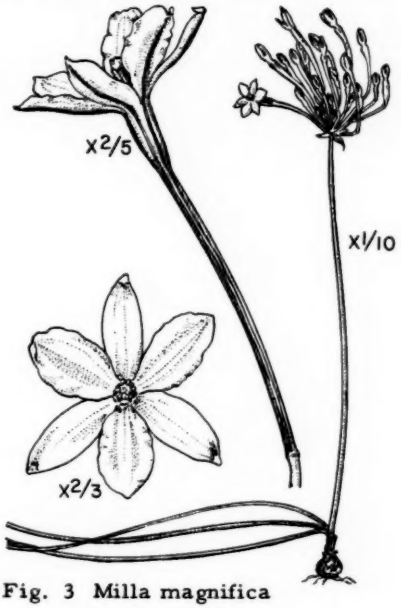

Fig. 3 Milla magnifica

Milla magnifica is a much stouter plant than M. biflora with onion-like leaves up to three feet long. The leaves stand stiffly erect until the scape is well-grown and then bend at the base becoming prostrate. The flowers, like those of M. biflora, are waxy-white with green stripes and extremely fragrant but the anthers are blue and borne on prominent filaments. Only one or two are open at a time and the plant may be in continuous flower for nearly a month. Because of their late flowering time, the corms are set out in the garden at Ithaca in late spring and removed indoors in early fall when the scapes are well developed.

Flowers of individual plants do not set seed when selfed but when cross-pollinated fruit readily. The anthers shed their pollen the first day, on the second day the stigma expands and is receptive to pollen from another flower and on the third day the flower withers. The perianth remains as a dry membranous sac about the

capsule until it is mature. The corms also produce offsets and the species is not difficult to propagate.

Petronymphe, H. E. Moore

One species, a perennial herb with 3-7 subtriangular linear leaves and a solitary arched scape from a membranous-coated corm: inflorescence umbellate, subtended by 3-4 distinct bracts, the 14-18 pendulous flowers yellow-green, articulate at the base with slender pedicels: perianth tubular, the segments united in a long tube with 6 spreading short lobes above, stamens 6, the filaments distinct, about twice as long as the linear anthers, ovary superior, borne on a short stalk that is attached to the perianth-tube on three angles: fruit and seed not known.

Petronymphe decora, H. E. Moore Fig. 4

Leaves to 2 feet long: scape to 20 inches high: flowers to 2 inches long, yellow-green with green stripes outside and blue or blue-green anthers on pale filaments. State of Guerrero, western Mexico.

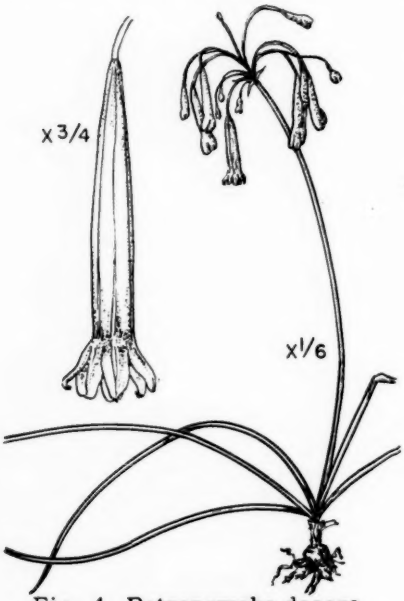

Fig. 4 Petronymphe decora

The only species of the genus yet described, Petronymphe decora, is known to occur only in one locality in Mexico. Travelers driving from Mexico City to the west coast port of Acapulco go within a few hundred yards of it as they ascend the hills beyond the little village of Acahuizotla in the state of Guerrero at an altitude of about 3000 feet. Here, in crevices of great weathered limestone blocks difficult of access, the plants are found in numbers with their lax grasslike leaves hanging downward, their slender scapes arched upward. The flowers are pendulous at the end of long slender pedicels and of a pleasing yellow-green color with contrasting anthers.

When this species was first collected by me during a field trip in September 1949 only one plant was seen in flower. That one plant was dried as an herbarium specimen and is now the type of

the genus and species. A very few corms were taken at the same time and in the summer of 1952 they flowered in the garden at the Bailey Hortorium. They were given only routine care but produced vigorous leaves and scapes which flowered early in August. In the garden they stand full sun well although in the wild they generally receive shade from overhanging shrubs and bromeliads.

Because seed was desired for propagation, an attempt was made to pollinate all flowers. Like Milla magnifica, this species is apparently self-sterile and set no fruit when flowers of the same or different plants were pollinated. It is assumed that all the corms collected were offsets of a single plant. Once mature, the corms produce several cormlets each year attached close to the parent corm or often borne in clusters at the end of a short slender rhizome. When stocks have increased sufficiently in this way Petronymphe decora should be an attractive addition to the increasing number of cultivated amaryllids.

CORRECT NAME OF THE HORSE-RADISH

The Horse-Radish has been placed in several genera and given a veritable galaxy of names. In "Hortus Second" (1941) it was called Armoracia rusticana, a name given it by Gaertner in 1799. In the second edition of Bailey's "Manual of Cultivated Plants" (1949) the name Armoracia lapathifolia was adopted. The latter was first used for the Horse-Radish by Gilibert in 1781. It would appear, in view of its priority, that this was the correct name. However, anyone interested in the nomenclatural status of new names in Gilibert's floras should read Dr. McVaugh's account of the invalidity of Gilibert's names [Gentes Herbarum, 8: 83-90, 1949], on the grounds that Gilibert rejected Linnæus' system of binomial nomenclature.

The same reasons by which Fagopyrum sagittatum, Gilib. is rejected for the Buckwheat in favor of the later but well established F. esculentum, Moench, hold for rejection of Armoracia lapathifolia, Gilib. in favor of A. rusticana, Gaertn. It is unfortunate that this error was not corrected in Bailey's Manual [as was the name for Buckwheat]. Armoracia rusticana is the valid name. It is expected that it will be accepted in "Hortus Third."

G. H. M. L.

A WORKING CATALOGUE COLLECTION

G. H. M. Lawrence

Every year nurseries, plantsmen, and seedsmen throughout the world receive requests from the Bailey Hortorium for their catalogues; sometimes it is a reminder that their catalogues have not been received during the last year, sometimes it is to ask that the Hortorium be placed on their permanent mailing list. There is good reason for these requests. Not only does the Hortorium have one of the three best catalogue collections in the country (and probably in the world), but it is making constant use of these catalogues. They constitute a working collection.

The Latin-named entries of every catalogue received are indexed on cards, giving for each item the name of the firm and year of offering. This index provides a record of what is offered by the commercial trade, by foreign as well as domestic sources. It provides a basic list of the names to be treated and accounted for in each edition of HORTUS, now an Hortorium publication. Ordinarily one card is set up for each species or Latin-named variant (a white card for domestic and yellow for foreign sources). The indes now consists of about 130,000 cards. Those for the more popular species bear the names of 150 or more firms (then requiring several cards for the one name).

The catalogue collection contains both wholesale and retail catalogues and lists. No list or flier is too small to be included. These provide excellent source material for price-index studies and related economic investigations. It is primarily for such reasons that wholesale listings are of value. They are lacking in our collection for the great period of nursery growth and expansion before the turn of the Century and up to the middle '20s. Had they been collected then, the assemblage would be of considerably greater value to the economist and statistician.

It is well known that the majority of new introductions are "presented" in these catalogues. For many so-called varieties, their first description was published in a catalogue. In days gone by, when nurserymen subsidized plant-hunting expeditions to foreign lands, the descriptions of species new to science were published in their catalogues. This practise is not now followed, but new variants are being described regularly for the first time and in quantity in these catalogues. This is a paramount reason why they must be preserved in our larger horticultural libraries.

In the preparation of HORTUS and other books from the Hortorium, we are constantly referring to these catalogues seeking

original descriptions of variants. It is for this reason that we urge all who issue lists and catalogues to keep the name of the Hortorium on their permanent mailing list. It frequently happens that firms and dealers are inadvertantly publishing a name and description for the first time; doing so without knowing it, either because a predecessor published only the name (without any description) or the material was received verbally with an unpublished name which the catalogue maker thought had been published. It cannot be presumed that a given catalogue contains no new names. The best practice is to ensure that every catalogue has been deposited in each of the well-known collections.

Very often the history of horticultural firms can be traced effectively by study of a long series of their catalogues. The Hortorium collection does contain complete sets of many firms. Comparisons of merchandising techniques are easily made by study of catalogues of a given country or between countries. Some of the early catalogues of Japanese bulb dealers (sent out in the 1900's) are of special interest, for they are of hand-painted water-colors, drawn natural size, of the species and varieties involved; each with a Japanese ideograph and an arabic numeral. The western buyer ordered by number, selecting the plant from the illustration. One of our catalogues of Japanese iris clones contains 60 such water-colors.

The backbone of this collection dates from about 1888, when L. H. Bailey came to Cornell and established its department of horticulture. It is clear that he began assembling a world-wide collection at once, and it is equally clear that they were studied carefully and served as material for articles in his now all but forgotten Annals of Horticulture. Other lesser collections have been acquired from time to time. However, the Hortorium collection as a whole has its weak spots. This is specially true for the years before 1890 and for foreign catalogues in general, although those from the British Isles are more adequately represented than are those from the Continent. Often, too, we are lacking the catalogues and small lists from the specialist, the single plant enthusiast whose catalogues are of more restricted distribution. Anyone having unwanted catalogues, American or foreign, in these categories should contact the Director, Bailey Hortorium, before relegating them to the rubbish or paper-drive. Too, the Hortorium would like to know of persons, societies, or libraries possessing special collections. There is an increasing need of a central file recording the locations of these collections. If there is sufficient interest and cooperation on the part of BAILEYA readers and others, the Hortorium might undertake the maintenance of such records.

No one wants to commit themselves as to who have the most complete catalogue collection in the country, but it is my personal

observation that two of the best are the one at the library of the Massachusetts Horticultural Society, Boston, and at the library of the U. S. Department of Agriculture, Washington. The former is especially valuable for its foreign catalogues of the last Century [practically unobtainable elsewhere in this country]. I have seen no collections of catalogues in Europe that begin to compare in scope with any of these three in America. That in the Lindley Library of the Royal Horticultural Society is disappointing; on the other hand, several Dutch firms possess excellent collections of Dutch catalogues, particularly those of bulbs (some dating to the 17th Century); the library at the Conservatoire de Botanique, Geneva, contains one of the best collections known to me of botanic garden seed lists (Index Semina) for it was started by de Candolle in the early 1800's and has been maintained. Good collections of catalogues of woody plant materials are to be found in Ghent, and it is probable that, as in the Netherlands, private Continental firms of long standing still possess runs of their own listings.

From the catalogue card file at the Bailey Hortorium it is often possible to advise correspondents of sources of the less usual or hard-to-find plants and seeds. Requests for such information will be handled to the best of our abilities. It should be remembered, in this connection, that our records do not include sources of fancy-named variants. Limitations of staff and file facilities preclude such all-inclusiveness.

USE AND MISUSE OF DIOECIOUS AND MONOECIOUS

The male and female sex organs are present in most flowers, that is, both the stamens and the pistil. A flower possessing both is said to be bisexual (hermaphroditic or perfect). When only one sex is represented the flower is unisexual and is then said to be staminate (male) or pistillate (female). If both staminate and pistillate flowers are on the same plant (as in corn, where the tassel is the staminate part and the ear with its silk the pistillate part) that plant is said to be monoecious (pronounced, moe-neesh-us). If, as in many kinds of holly or yew, the staminate flowers are on one plant and the pistillate on a second, then that species is said to be dioecious.

Frequently one reads of flowers being monoecious or dioecious. This usage is incorrect. Flowers may be unisexual, but one cannot determine from examination of a single flower whether dioecism or monoecism exists. It is necessary to examine the nature of the unisexual flowers on the plant to learn whether flowers of one sex [dioecism] or both sexes [monoecism] are present.

A Name for the Christmas Cactus

Reid Moran

For seventy years or more the Christmas cactus has been widely grown in this country as a house plant, popular because it flowers freely at about the Christmas season. It has slender branches each divided into a series of leaflike flat joints with crenate margins. The handsome deep rose flowers are pendent and nearly regular.

The Christmas cactus has usually been known under the incorrect name of Zygocactus (or Epiphyllum) truncatus. In Bailey's Manual of Cultivated Plants it is illustrated under this name. The true Zygocactus truncatus, which is less widely grown, is closely related but clearly different. The margins of its joints have sharp teeth rather than rounded crenations, and the flowers are horizontal and much more irregular, the upper petals projecting like a hood, the lower bending sharply backward. This plant blooms earlier in the fall.

The Christmas cactus has also been confused with Schlumbergera Russelliana, a closely related species that appears not to be grown in this country. That has narrower joints and smaller flowers with less spreading petals, and it has been reported in Europe as a very shy bloomer.

Most cactus specialists are now aware that the Christmas cactus is neither Zygocactus truncatus nor Schlumbergera Russelliana. Yet despite much debate, they are uncertain what it should be called. Some botanists have suggested that it is a hybrid, but there is no evidence that this is true. A study of the literature shows that the correct name for the Christmas cactus is Schlumbergera Bridgesii, (Lem.) Löfgren. A more complete account of this situation is to be found in Gentes Herbarum vol. 8, pp. 328-337, 1953.

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Dr. Reid Moran, who has been on a temporary appointment at the Bailey Hortorium since October 1951, has left to teach at Stanford University for the Spring Term. While at the Hortorium Dr. Moran completed manuscript treatments of Crassulaceæ and Cactaceæ for "Hortus Third."

Keys to Cultivated Plants

G. H. M. Lawrence

The staff members of the Bailey Hortorium are actively engaged in revising and rewriting "Hortus". Every genus is being restudied in the light of recent revisions and monographs, and from specimens at the Hortorium and other institutions. In most instances, an understanding of the cultivated species requires the revisor to construct a key in which the characters are contrasted to show those by which one species is distinguished from another.

The Hortorium files now contain several hundred of these keys. It is hoped that they may be utilized again in the preparation of a future edition of Bailey's "Standard Cyclopedia of Horticulture," but for the present it seems proper that those for the more widely grown genera may very well be published in this and continuing issues of "Baileya."

A majority of subscribers to "Baileya" are not professional taxonomists, nor even familiar with botanical terminology. For this reason each key will be accompanied by line illustrations prepared to illustrate technical characters. For purposes of convenience, these figures will be referred to parenthetically in the key and usually will be found at the foot of the same page. In order to reduce space, the abbreviations, given on the inside of the back cover will be used in these keys.

The keys will comprise a continuing series. No phyletic sequence will be followed in the selection of genera presented and each treatment will have its own author. To preserve continuity and to associate each key with this introduction, each subtitle will be preceded by an arabic numeral.

1. The Cultivated Species of Gypsophila

G. H. M. Lawrence

The genus Gypsophila belongs to the family Caryophyllaceæ [the Pink Family] and contains, among other well-known species, the Babys-breath. Some species are rock-garden subjects and others are annuals for cutting, or are perennials for the border. All are of easy culture. Some of the asiatic species are not so well known, yet have been offered occasionally during recent years. The plant known as Gypsophila fratensis appears to be of garden origin, a low perennial of above-average merit for the rock-garden or border front. The species to be accounted in "Hortus Third" are included below. It will be appreciated if readers knowing of others in cultivation in North America, but not treated below, will so advise the Director of the Bailey Hortorium.

1. Plants 24-36 in. high or more [see also 2nd 1, below].
   2. Fls. in dense head-like cymes (fig. 5). G. Oldenhamiana, Miq.
   2. Fls. in loose open paniculate cymes (fig. 6).
      3. Lower lvs. about twice as long as wide. G. pacifica, Kom.
      3. Lower lvs. 4-8 times as long as wide.
         4. Lvs. (at least the lower ones) usually 3-5-nerved, mostly 1.2-3.0 cm. wide. G. acutifolia, Fisch.
         4. Lvs. usually 1-nerved, mostly less than 1.2 cm. wide.
            5. The lvs. linear, somewhat 3-sided; fls. pink to purplish. G. Gmelinii, Bunge
            5. The lvs. lanceolate to oblong-lanceolate, flat: fls. white.
   6. Lvs. perfoliate: infl. sometimes hairy. G. perfoliata, L.
   6. Lvs. not perfoliate: infl. always glabrous.
      7. The lvs. fleshy, lower ones obtuse (fig. 7): calyx segms. linear (fig. 8). G. Rokejeka, Delile
      7. The lvs. thin, all acute: calyx segms. broadly elliptic (fig. 9). G. paniculata, L.

1. Plant 3-12 (rarely to 18) in. high.
   8. Duration annual.
      9. Lvs. lanceolate. G. elegans, Bieb.
      9. Lvs. narrowly linear. G. muralis, L.

Fig. 5

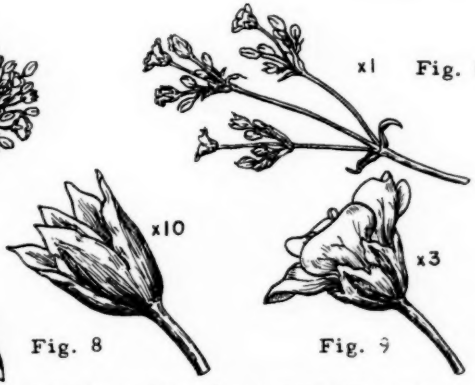


Fig. 6 Fig. 7 Fig. 8 Fig. 9

Fig. 5, G. Oldhamiana, infl. br.; Fig. 6, G. pacifica, infl. br.; Fig. 7, G. perfoliata, lf. node; Fig. 8, G. Rekejeka, calyx; Fig. 9, G. paniculata, flower.

8. Duration perennial.

10. Lvs. not glabrous, at least not so above.

11. Foliage pubescent throughout. G. cerastioides, D. Don

11. Foliage viscid (sticky) above, glabrous beneath. G. viscosa, Murr.

10. Lvs. glabrous.

12. Plants densely cushion-forming, to 2 in. high; lvs. somewhat 3-sided in cross-section, obtuse. G. aretioides, Boiss.

12. Plants not as above, but may be mat-forming; lvs. flat, usually acute.

13. Inflorescence dense and congested: lvs. mostly more than 1 in. long.

14. Fls. in dense corymbs (fig. 10); calyx green. G. fastigiata, L.

14. Fls. in terminal heads; calyx violaceous. G. transsylvanica, Spreng.

13. Infl. loose and open; lvs. mostly less than 1 in. long.

15. Plants erect or clump-forming, sts. less than 3 in. high. G. fratensis, Hort.

15. Plants repent (prostrate), sts. ascending to 4-10 in. high.

16. Lvs. green: calyx 5 mm. long (fig. 11). G. repens, L.

16. Lvs. glaucous (bluish): calyx 2.5 mm. long (fig. 12). G. Stevenii, Hohen.

Fig. 10

Fig. 11

Fig. 12

Fig. 10, G. fastigiata, infl. br.; Fig. 11, G. repens, flower; Fig. 12, G. Stevenii, flower.

Cultivar, Distinguished from Variety

G. H. M. Lawrence

In 1918, L. H. Bailey distinguished those plants originating in cultivation from the native plants by designating the former as cultigens and the latter as indigens [indigenous or native to a region]. At the same time he proposed the term cultivar to distinguish varieties originating in cultivation from botanical varieties known first from the wild.

A new code of nomenclature for cultivated plants was provisionally approved at the International Horticultural Congress, held in London in September 1952, and in this code [to be reviewed in detail in a later issue of "Baileya"] the term cultivar (abbreviation, cv.) was adopted. There is good reason for the introduction of this unit of classification into horticultural nomenclature. Explanation and examples are in order.

The so-called varieties of horticulturists may be natural variants introduced to gardens from fields and forests, many of them already named as a part of a native flora; they may be sports or mutants arising under cultivation and propagated vegetatively; they may be selected strains of hybrid origin or pure lines grown regularly from seed. Furthermore, some plantsmen (perhaps in an effort to give greater permanence or prestige to a name) have described variants originated in cultivation under Latin varietal names [such as alba, grandiflora, or Hillii] while others have given similar variants fancy or vernacular names [such as 'Princess Elizabeth', 'La Neige', or 'Eva Rathke']. There is no fundamental difference between variants of garden origin given Latin names and similar variants given vernacular names.

It has been common practice to assign authorities to Latin varietal names [as is done in Rehder's Manual or Bailey's Manual], it having been assumed that Latin varietal names are of greater importance and more stable than the vernacularly named taxa [note their prevelance in such standard works as Bean's Trees and Shrubs, Bailey's Hortus, and Chittenden's Dictionary]. On the other hand, fancy-named variants are often the most important horticultural members of some species of a genus [as in Rhododendron, Hibiscus, Brassica, or Ilex], and in others are the only horticulturally important members [as in Tulipa, Malus, Antirrhinum]. All of these are cultivars and all should receive the same nomenclatural treatment.

It is proposed in the new Code that Latin-named and vernacularly-named cultivars be treated alike, and that neither be followed by the name of the person who first named it. For example, Hedera Helix cv. 'Baltica' [a variant selected at the Arnold Arboretum], Eremurus Bungei cv. 'Sulphureus', or Calendula officinalis cv. 'Orange King'. The new Code states that in every case the cultivar name shall be enclosed by single quotation marks. It provides further that vernacular names shall begin with capital initials. However, it is optional to use a capital or small initial for those names taken from the Latin. In the next edition of "Hortus" cultivars will be distinguished from botanical varieties and the names of those taken from the Latin will begin with a capital initial.

The recognition of the validity of the category of cultivar does not mean that horticulturists and plantsmen in general are going to cease talking about varieties and take up universally the more precise term of cultivar, at least not in the near future. It does mean, however, that in standard works where precision of expression is to be expected the use of the designator cv. for cultivar will have meaning for those who understand and use the term. Most of those same works will differentiate in so far as possible between clones and cultivars, designating the former with cl. [as Juniperus virginiana cl. 'Burkii' or, when a clone is derived from hybridization of species, as Gladiolus cl. 'Picardy']. If it is not known that a cultivated variant is a clone, a safe procedure is to designate it as a cultivar.

TAXON, A NEW TERM

The last 3 to 5 years have witnessed the introduction and acceptance here and abroad of a new term in botanical and horticultural literature. The term is taxon and its plural form is taxa. It was coined more than 25 years ago by Meyer, a German biologist, so its newness is one of usage rather than origin.

The term taxon is used to designate an individual plant, a population of plants, or a group of plants of any category (as variety, species, or genus) without specifying what category is intended. This apparent vagueness is sometimes necessary. Often the correct category is not known, or one may not wish to hazard a guess on the subject. Nonetheless, one may refer to such a plant as a taxon of a particular species or genus.

The term is equally useful when comparing, for example, a variety of Rosa with other clones, varieties, and species of the genus, saying "this variety differs from other taxa of Rosa" by such and such characters.

SCARLET EPISCIA is not an African-violet

From full-page ads in color to blurbs from columnists' pens, the American horticultural magazines and daily newspapers are giving blatant publicity to a so-called Scarlet African-violet. The African-violet is a Saintpaulia, while this currently over-publicized relative is an Episcia (pronounced, ee-piss-see-uh with the accent on the second syllable, not ee-pish-ee-uh nor epi-see-uh). The two genera, Episcia and Saintpaulia are members of the same family, the Gesneriaceae, but one is no more related to the other than is a snapdragon to a calceolaria (members of the Figwort family).

Episcia is a genus native to tropical America, Saintpaulia to east tropical Africa. Genetically the two are incompatible and (despite suggestions of a cross producing a vivid scarlet hybrid, resembling an African-violet) no hybrids are to be expected between them. Episcia flowers have 4 stamens and a long corolla-tube, those of Saintpaulia have 2 stamens and scarcely any corolla-tube.

This Scarlet Episcia is a form of E. cupreata and is not E. coccinea - a garden name under which it is usually advertised. The species is not new in cultivation, but has been grown in greenhouse collections here and in Europe for half a century or longer. Unlike the common African-violet, it is not a good window pot-plant, but is best suited as a hanging basket subject thriving in a humid atmosphere.

Remember, this plant is not any kind of an African-violet! It is a Scarlet Episcia. Let us not confuse the two!

G. H. M. L.

NOMENCLATURE OF CULTIVATED PLANTS

Word is received that the International Code of Nomenclature for Cultivated Plants, approved provisionally at the International Congress of London 1952 and now available only in mimeographed form, is in final proof stage. It should be in printed pamphlet form early this summer. An abridged or simplified version of this code has also been prepared and will be available at the same time. Persons in U. S. A. interested in obtaining copies may write to the Bailey Hortorium for particulars.

G. H. M. L.

METRIC VS. ENGLISH MEASURE

"Baileya" is a periodical for the plantsman. This first issue goes to as many persons outside this country as within. It is expected that future issues will be equally widely distributed. Undoubtedly a majority of readers are as familiar with the metric system of measurement, or more so, as with the English.

The English units of measurement [such as the inch, foot, and yard] are convenient, but for fractions of an inch the system becomes awkward and cumbersome. Many plant structures are much less than one inch in length or width; parts that are important for identification purposes are commonly only 1/12, 1/16, or 1/32 of an inch long. Often the size is one not easily measured or visualized when expressed in fractions of an inch, such as 1/15 or even 1/3 of an inch. On the other hand, the metric system, being also a decimal system, is excellent in this regard, and it is known internationally.

There are 25 mm. in one inch [= 2.5 cm.]. It is much more simple to express the equivalents of parts of an inch in whole numbers than in ungainly fractions. For example, 1/4 inch = 6 mm., 1/3 inch = 8 mm., and 1/8 inch = 3 mm. For sizes larger than an inch, centimeters are used if a few inches are involved, or decimeters if 4 inches or more are to be designated.

English-speaking plantsmen are not expected to abandon the English system of measurement for the metric, but in view of the greater suitability of the latter for our purposes and its universal use (even in this country by scientists), we have adopted it for "Baileya". A scale of equivalents is reproduced on the inside of the back cover. It is expected that it will be retained there in future issues for readers' convenience. This adoption of the metric system is not being considered now for the next edition of Hortus.

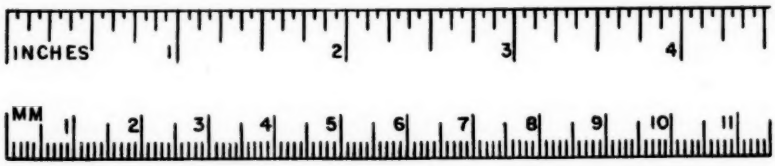
G. H. M. L.

Inquiries are received regularly as to when "Hortus Third" is to be published. It will be at least two years before the revision can be completed. Manufacture of so large and technical a book will require nearly another year after that. If members of the Hortorium staff do not take on additional responsibilities, one can expect Hortus Third out in late 1955 or sometime in 1956.

ABBREVIATIONS USED IN BAILEYA

[Excluding abbreviations of author's names following binomials etc.]

ann.	annual	dm.	decimeter	lf.	leaf
bien.	biennial	fl.	flower	lft.	leaflet
br.	branch	fls.	flowers	lvs.	leaves
brt.	branchlet	flt.	floret	mm.	millimeter
caps.	capsule	fr.	fruit	per.	perennial
cl.	clone	ft.	foot	segm.	segment
cm.	centimeter	hort.	horticultural	st.	stem
cv.	cultivar	in.	inch	sts.	stems
diam.	diameter	infl.	inflorescence	var.	variety

METRIC - ENGLISH EQUIVALENTS (approximate)

6 mm. - 1/4 in.	10 cm. - 4 in.	10 mm. - 1 cm.
12 mm. - 1/2 in.	1 dm. - 4 in.	10 cm. - 1 dm.
25 mm. - 1 in.	3 dm. - 1 ft.	10 dm. - 1 meter
2.5 cm. - 1 in.	10 dm. - 1 yd.	
5 cm. - 2 in.	1 m. - 39 in.